OMNEO

OMNEO network

BOSCH

en Configuration guide

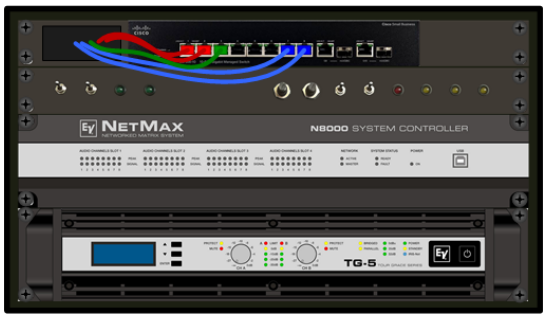
Table of contents

1 Introduction

This application note covers the configuration of a specific Cisco switch for the use with an OMNEO network. The interface that is shown in the application note is specific to the Cisco SG-300 switch. Other switches will have different management interfaces.
The parameters that are shown in the examples reflect common configurations for OMNEO hardware and can be implemented on any managed switches that support them.
All settings are shown with an example that is found in equipment used for training. This is for illustration purposes and the same steps and configuration can be applied to any kind of system with proper modifications.
The example covers the use of VLANs and RSTP in the network configuration. These details are provided for completeness but the use of VLANs and/or RSTP are not required to use OMNEO hardware.

2 Basics

This section describes an example setup.
For IRIS-Net Training small racks are used which look like this:



Cisco SG300-10: 10 port GBit Ethernet switch

Electro-Voice N8000: Digital audio matrix equipped with DM-1 Dante module

Electro-Voice TG-5: Amplifier equipped with RCM-28 remote control module with OMNEO interface

The Cisco SG300-10 switches in the racks should be configured as follows:

IP address

- Generally individual IP addresses are mandatory for all networks with multiple devices.
- Switches are allowed to have identical IP addresses in case no access to the web interface is needed.

Firmware

- Same switch firmware and boot loader is mandatory for all networks with multiple switches.
- See SG300 manual for details about firmware and boot loader updating.

Notice!

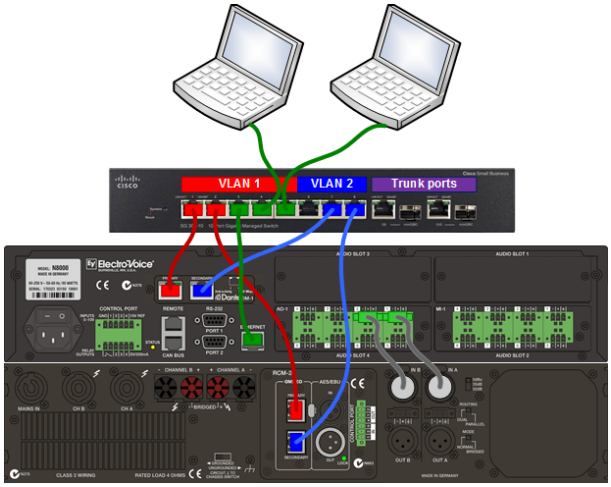
When updating from firmware lower than 1.3.7.18 you need to update to 1.3.7.18 first and after that to the latest firmware (07-Jul-2015: firmware 1.4.1.03)

Quality of Service (QoS)

- Settings can be optimized for use with Dante/OMNEO
- Mandatory for all networks with a lot of audio data traffic

Virtual LANs (VLAN)

- For Dante, IRIS-Net and OMNEO
- VLAN 1: Dante Primary, IRIS-Net control data, OMNEO Primary, switch management
- VLAN 2: Dante Secondary, OMNEO Secondary
- Mandatory for most networks where Glitch Free Redundancy is used



Trunk Ports

- For easy connection of multiple training racks with VLANs
- Trunk ports must carry both VLAN 1 and 2
- Mandatory for all networks where multiple switches and VLANs are used

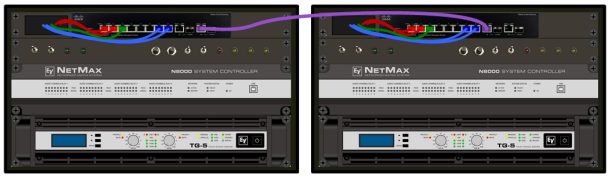


Figure 2.1: Trunk ports

Rapid Spanning Tree Protocol (RSTP)

- For redundant connection (ring, mesh) of multiple training racks.
- Mandatory for all networks where ring or mesh connections are used

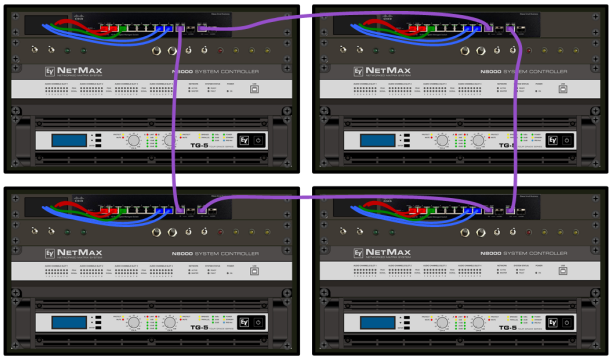


Figure 2.2: RSTP

Green Mode / Green Ethernet

- Feature for saving energy in Ethernet switches during periods with low network activity.
- Very likely to cause synchronization issues on a Dante network with device clocks drifting away from the system-wide clock.

Notice!

The Green Mode needs to be completely deactivated!

Notice!

Save configuration

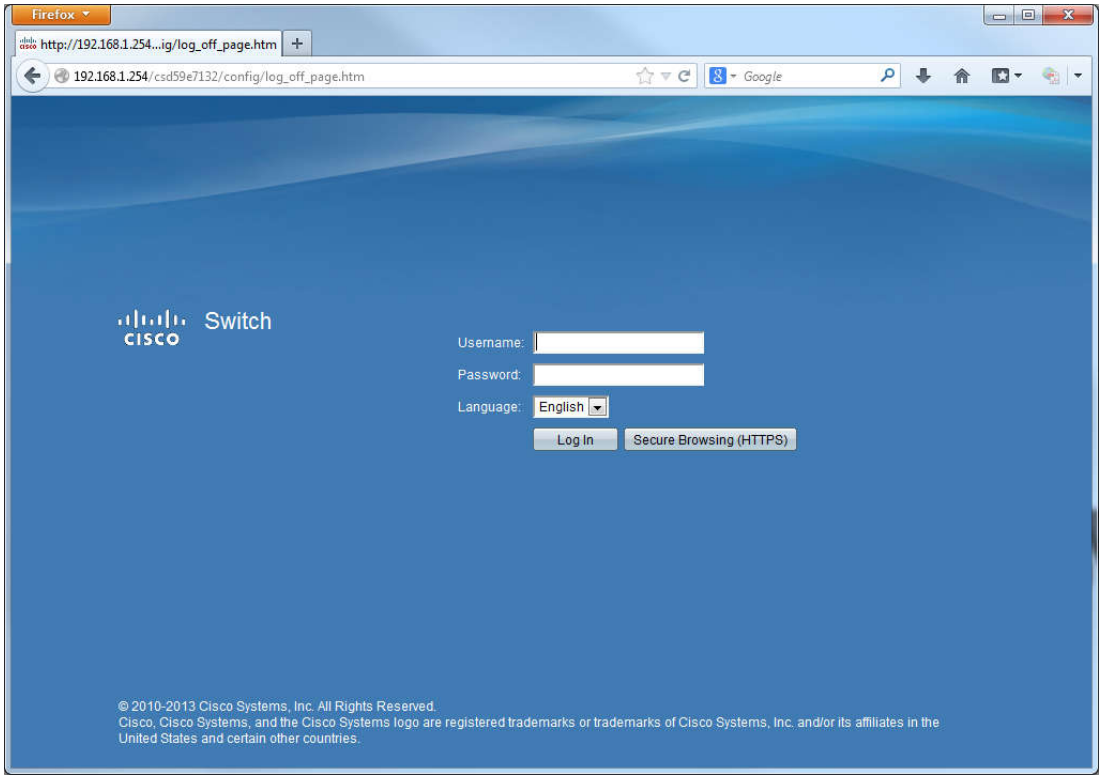
Always after making changes to the switch configuration don’t forget to permanently save the configuration – otherwise it will be lost after a reboot.

3 Configuration

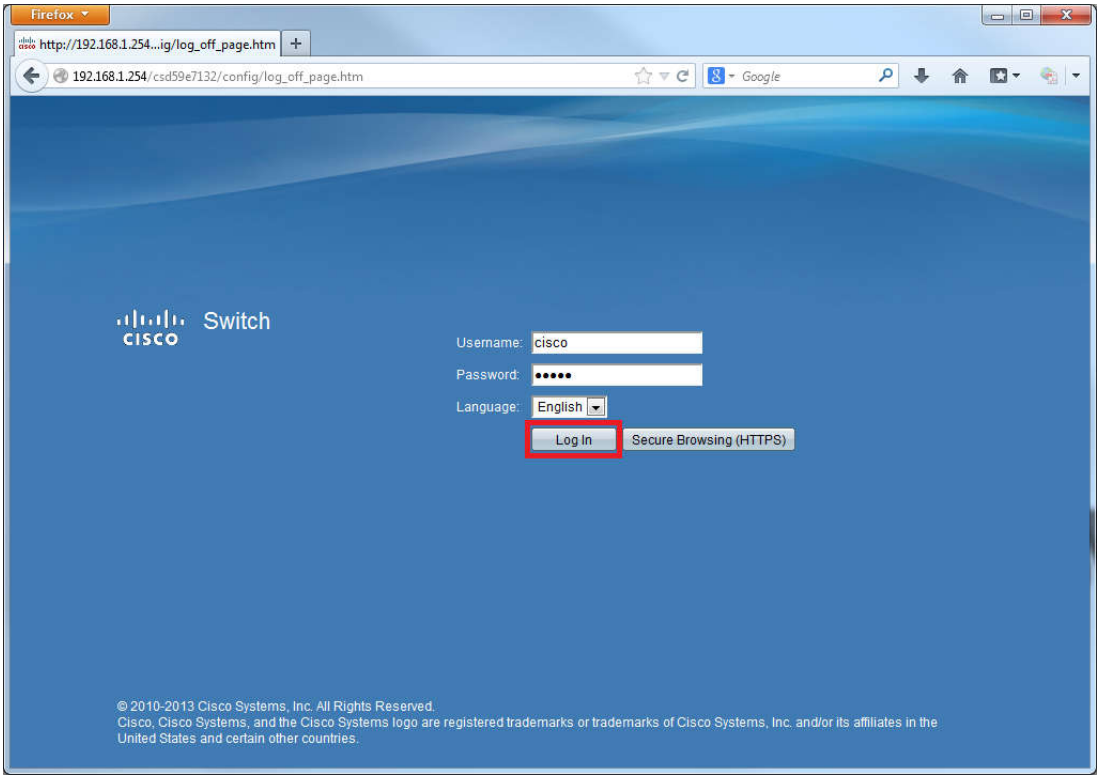
3.1 General configuration

3.1.1 Connect and log in

1. Connect to the switch's default IP address 192.168.1.254 via web browser.



2. Enter user name "cisco" and password "cisco" and click on the *Log In* button.


Firefox
http://192.168.1.254...ig/log_off_page.htm
192.168.1.254/csd59e7132/config/log_off_page.htm
Google
Switch
Username: cisco
Password:
Language: English
Log In
Secure Browsing (HTTPS)
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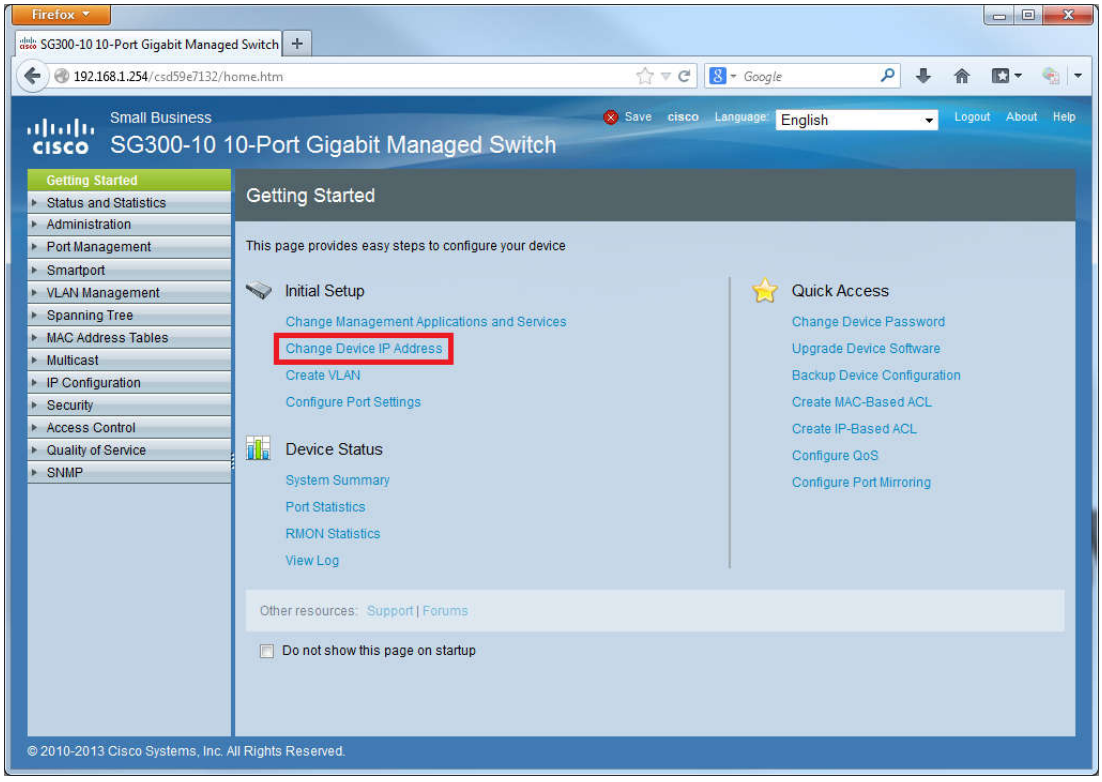
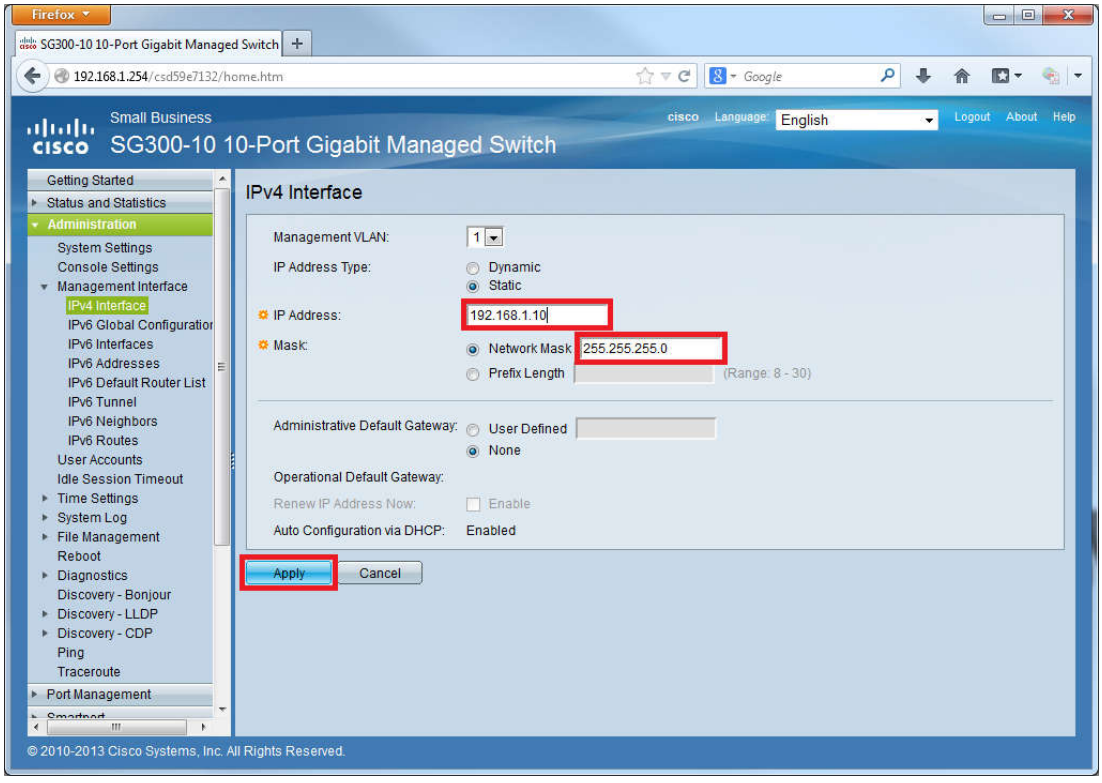
3.1.2 Change IP address

1. On the *Getting Started* page go to *Change Device IP Address*.



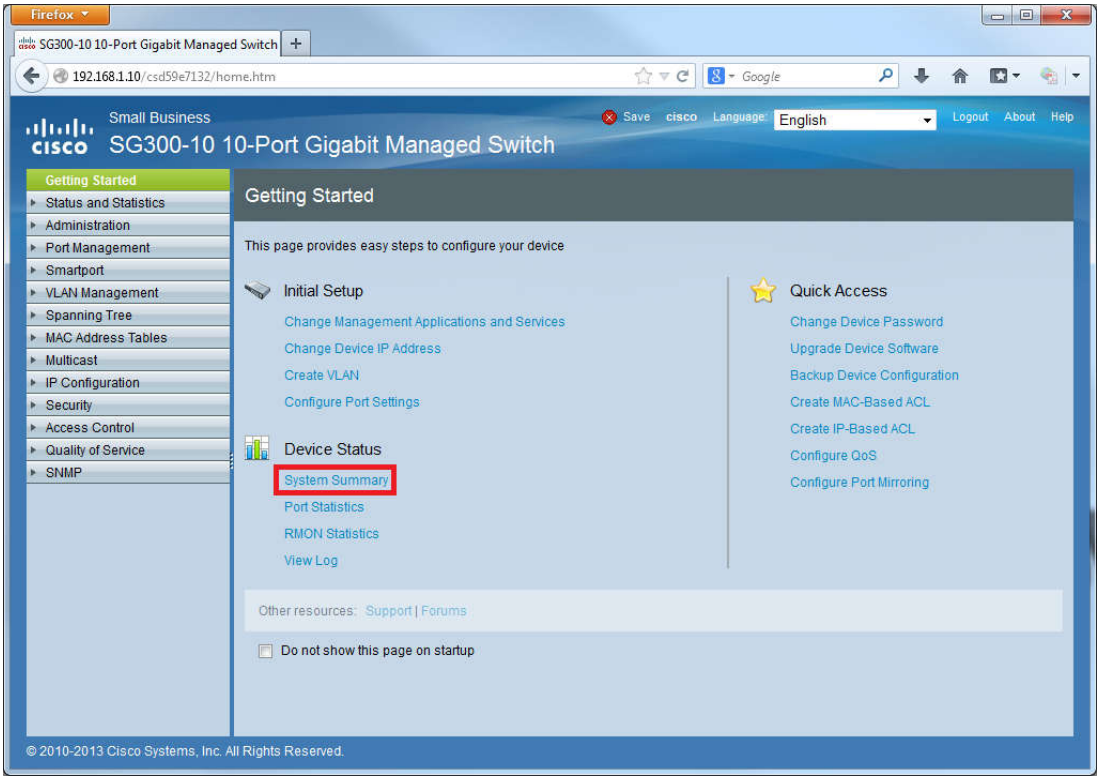
2. Change the *IP Address* and subnet *Mask*, and then click on the *Apply* button.



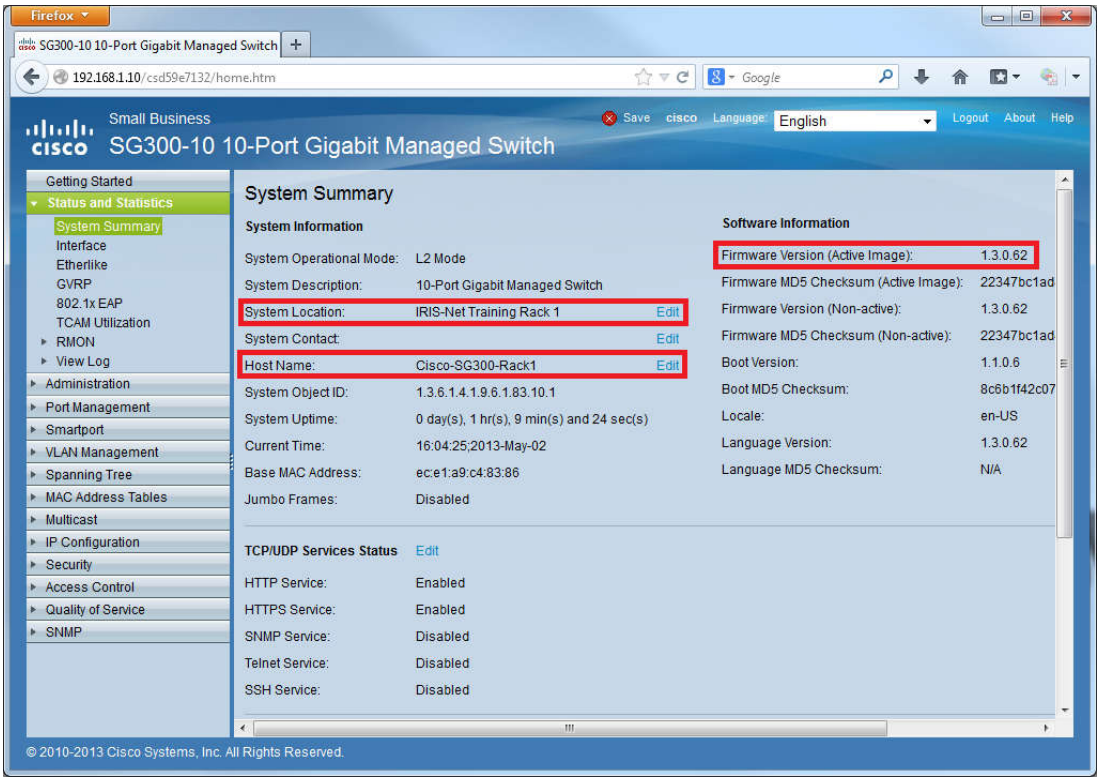
3. Reconnect to the new IP address and log in again.

3.1.3 Edit location and name

1. On the *Getting Started* page go to *System Summary*.



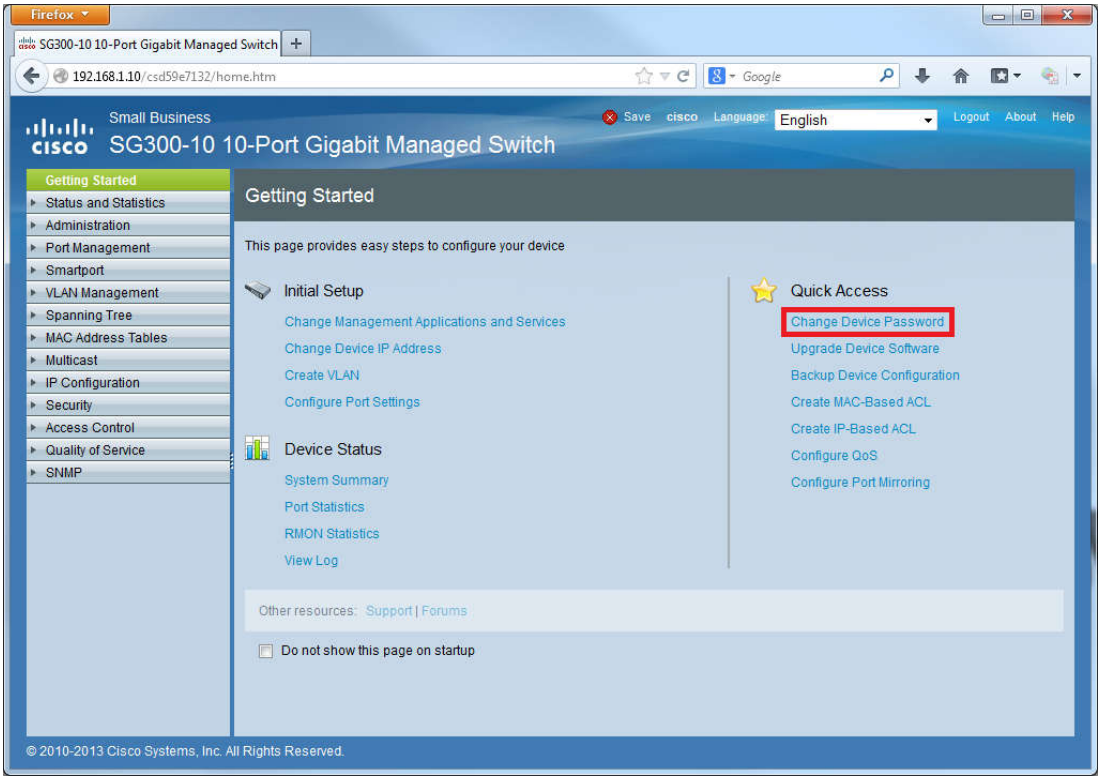
2. Under *System Summary* enter a *System Location* and a *Host Name*.



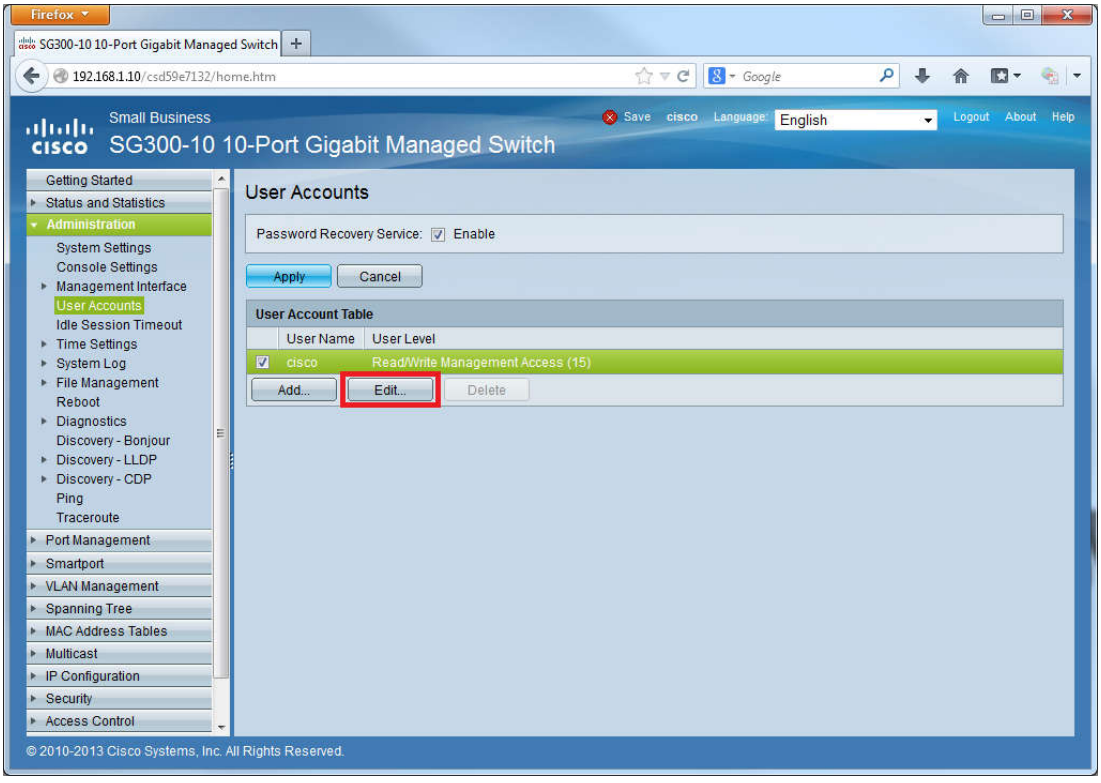
3. Check the *Firmware Version* and if necessary make an update (see manual).

3.1.4 Change password

1. On the *Getting Started* page go to *Change Device Password*.

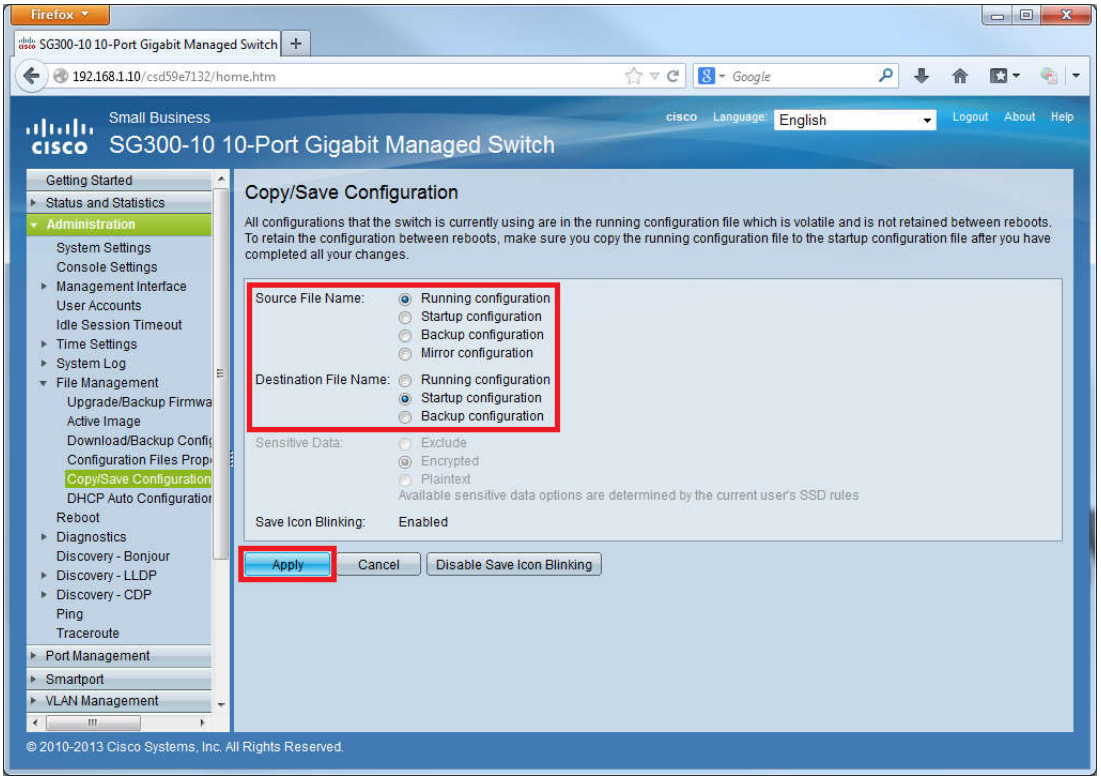


2. Under *User Acounts* edit the password (and user name) for the default user.



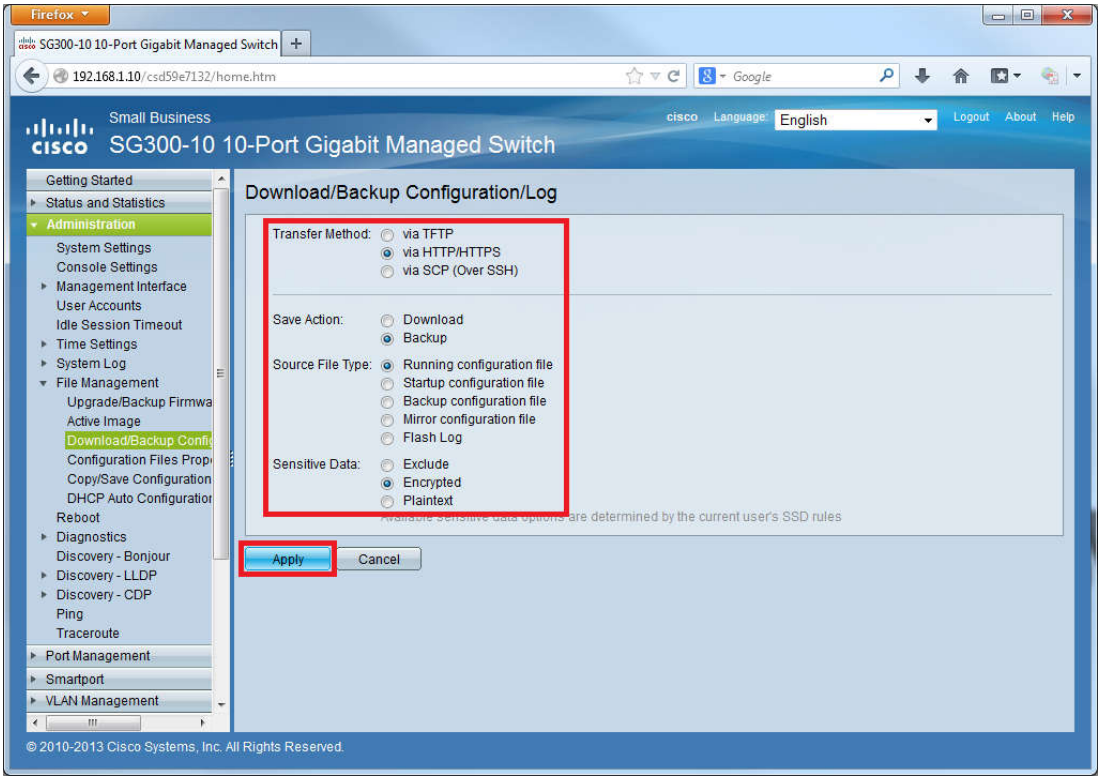
3.1.5 Save running configuration on the switch

1. Go to *Administration* > *File Management* > *Copy/Save Configuration*.
2. Under *Copy/Save Configuration* select source *Running configuration* and destination *Startup configuration* and click on the *Apply* button.

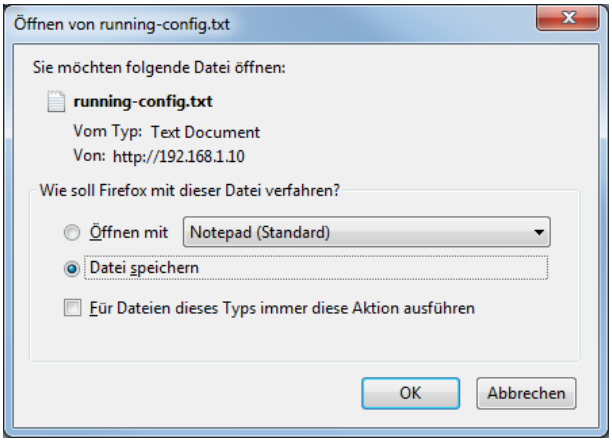


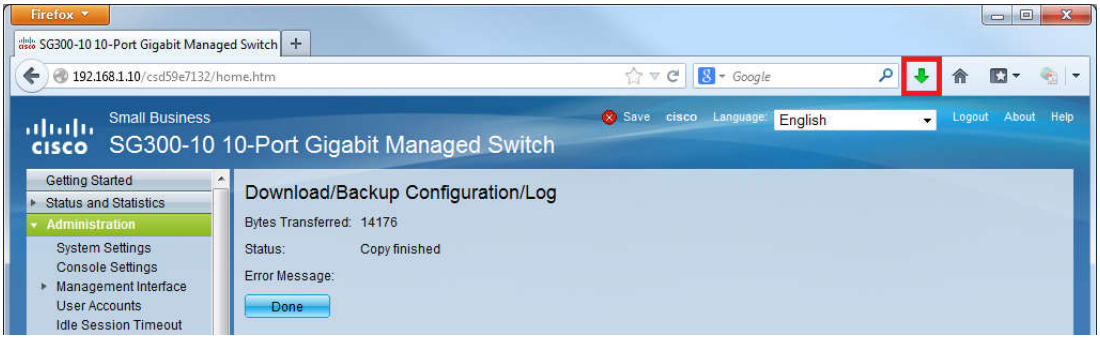
3.1.6 Save running configuration as a file on a PC

1. Go to *Administration* > *File Management* > *Download/Backup Configuration*.
2. Under *Download/Backup Configuration* select *Transfer Method: via HTTP, Save Action: Download, SourceFile Type: Running configuration* and *Sensitive Data: Encrypted* and click on the *Apply* button.



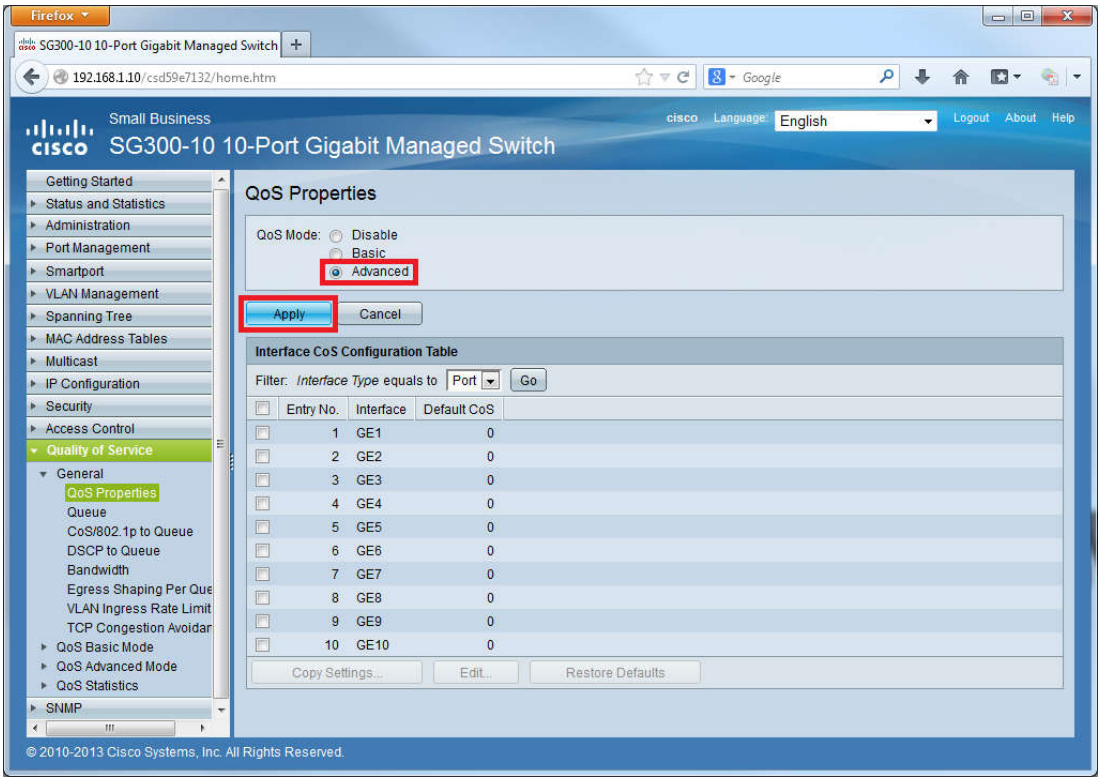
3. Under Open running-config.txt select *Save File*. A file running-config.txt is saved under Downloads (green arrow symbol in Firefox web browser, see screenshot).



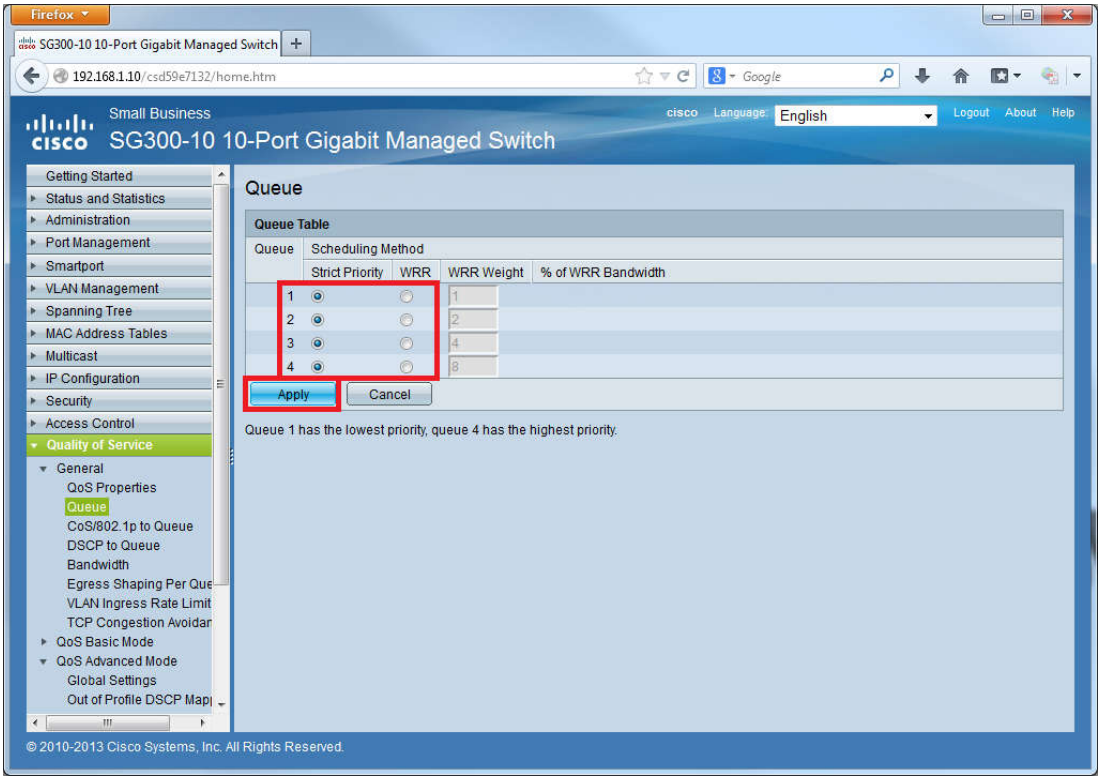

Firefox
SG300-10 10-Port Gigabit Managed Switch
192.168.1.10/csd59e7132/home.htm
Google
Small Business
SG300-10 10-Port Gigabit Managed Switch
Save
cisco
Language:
English
Logout
About
Help
Getting Started
Status and Statistics
Administration
System Settings
Console Settings
Management Interface
User Accounts
Idle Session Timeout
Download/Backup Configuration/Log
Bytes Transferred: 14176
Status: Copy finished
Error Message:
Done

3.2 QoS configuration

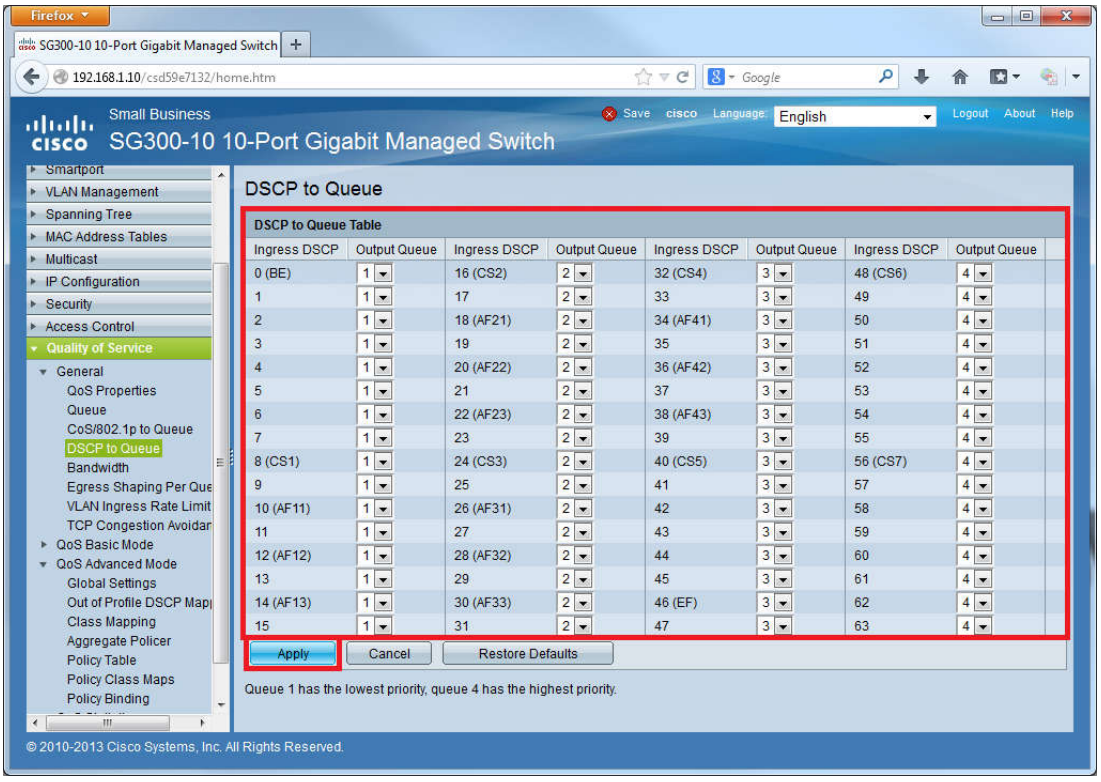
1. Go to *Quality of Service* > *General* > *QoS Properties*.
2. Under *QoS Properties* select QoS Mode *Advanced* and click on the *Apply* button.



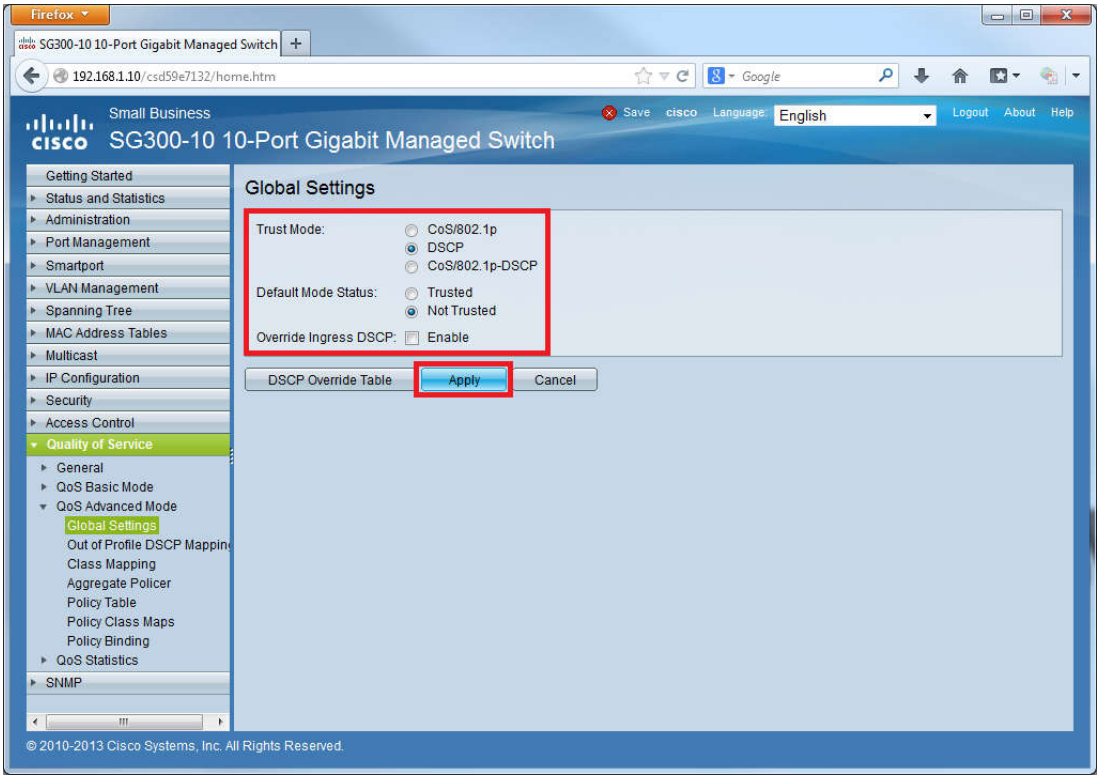
3. Under Queue select *Strict Priority* for *1-4* and click on the *Apply* button.



4. Under *DSCP to Queue* make the following settings and click on the Apply button.



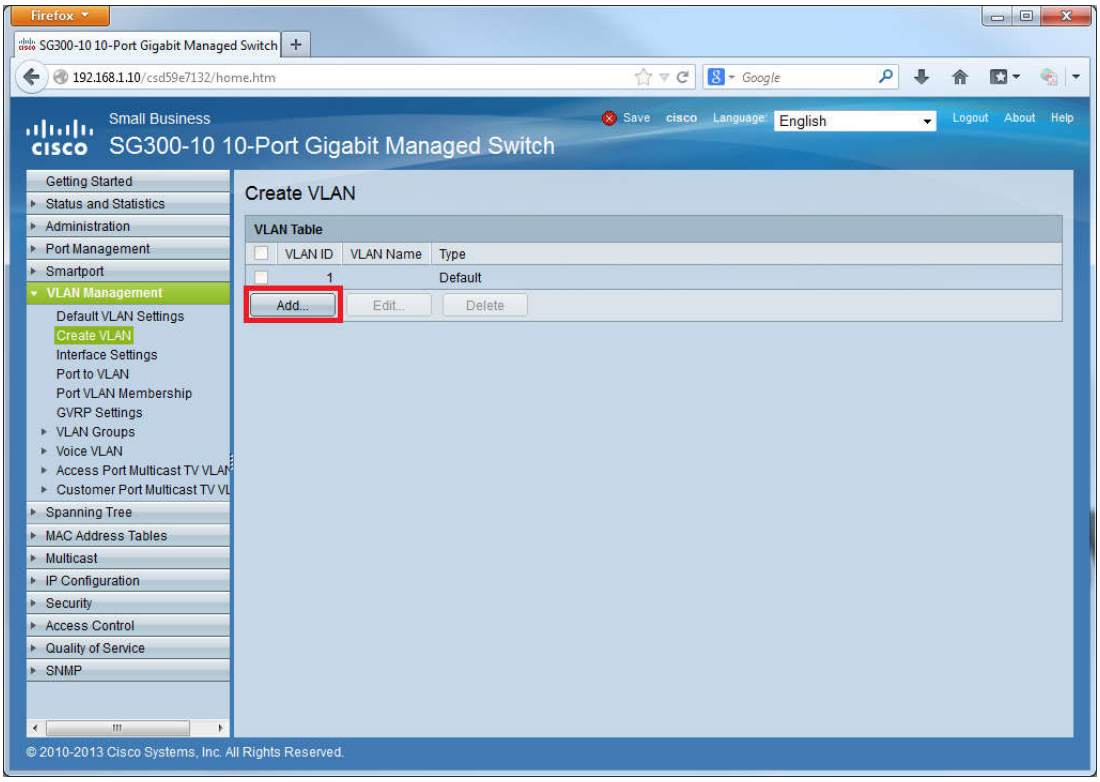
5. Go to *Quality of Service* > *QoS Advanced Mode* > *Global Settings*.
6. Under *Global Settings* make the following settings and click on the *Apply* button.



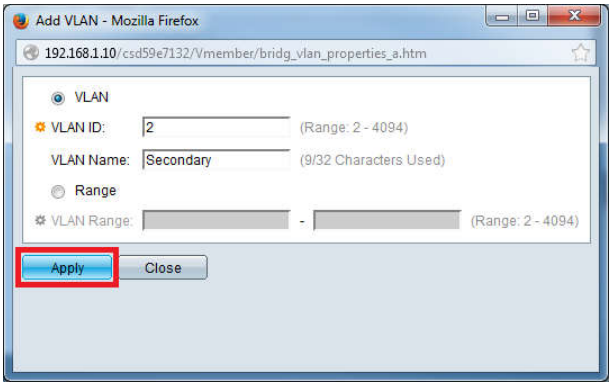
Notice!
Don’t forget to save the changes you made!

3.3 VLAN configuration

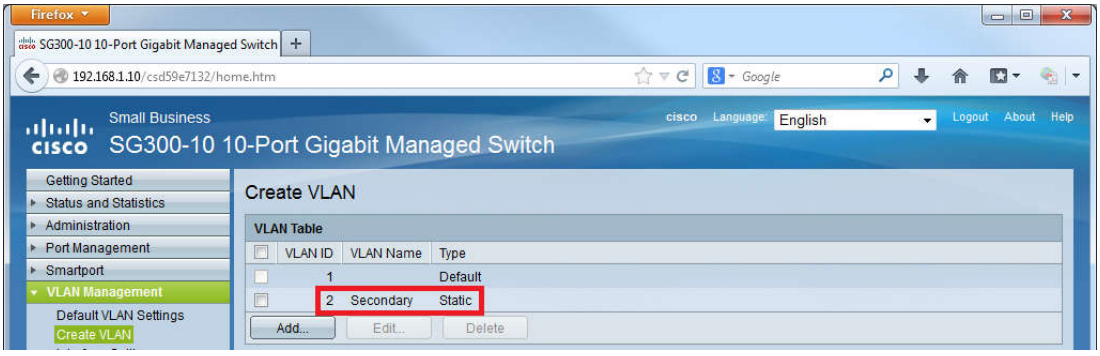
1. Go to *VLAN Management* > *Create VLAN* and click on the *Add...* button.



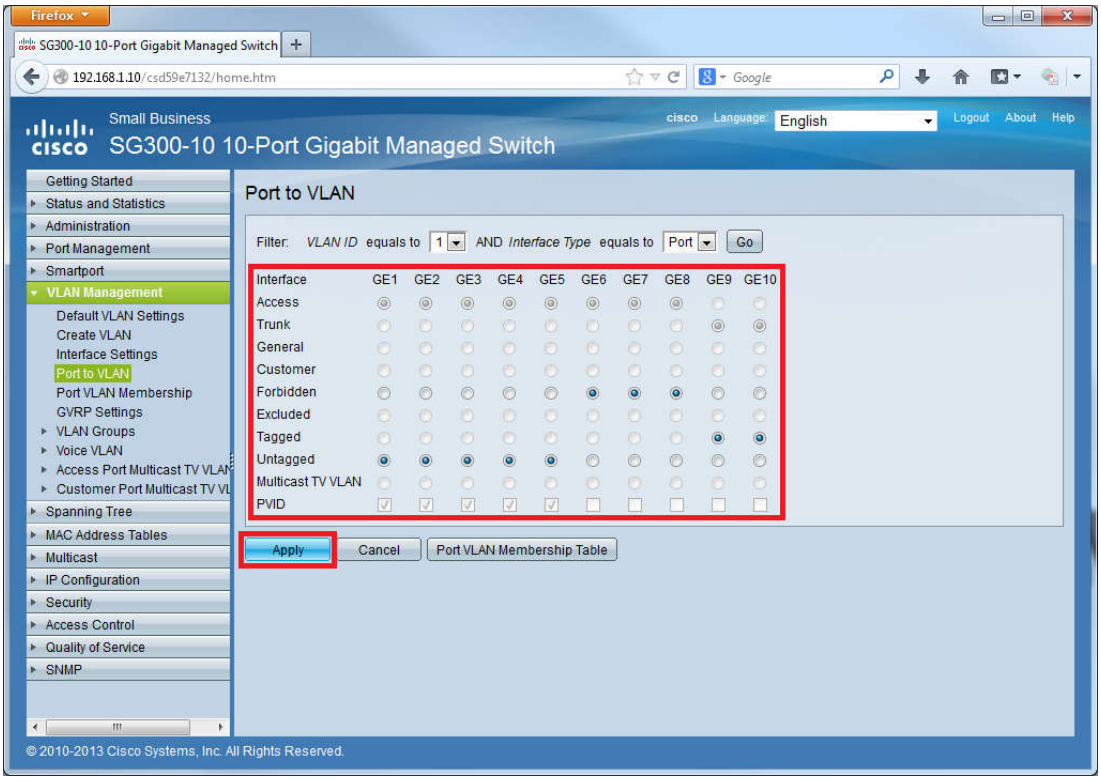
2. Under Add VLAN enter *VLAN ID: 2* and *VLAN Name: Secondary* and click on the *Apply* button.



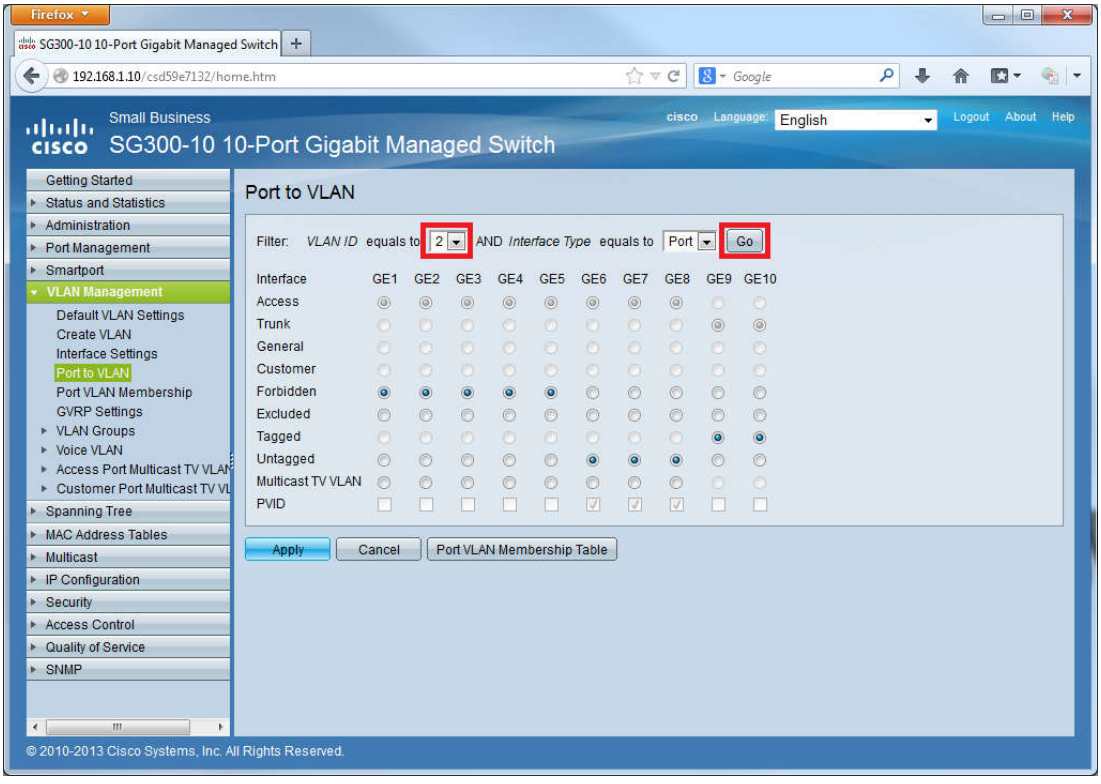
3. Under *Create VLAN* check if the VLAN Secondary with ID 2 has been created.



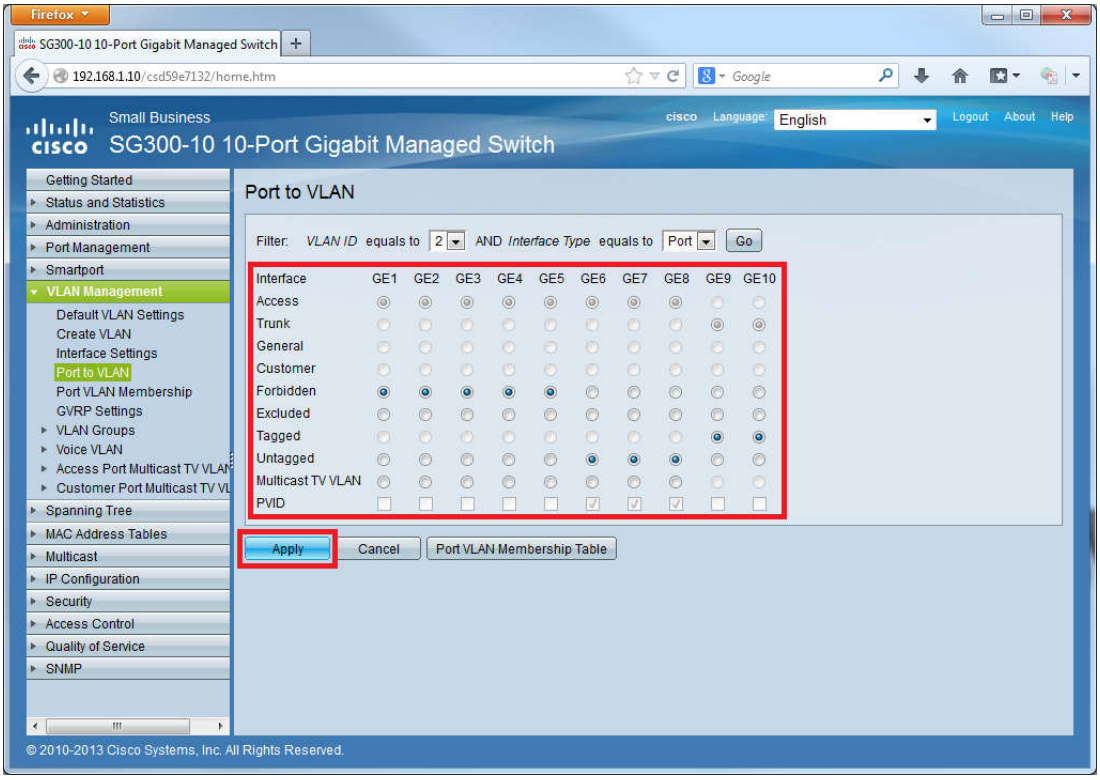
4. Under *Port to VLAN* make the following settings and click on the *Apply* button.



5. Under *Port to VLAN* select *VLAN ID equals to 2*, click on the *Go* button.



6. Under *Port to VLAN* make the following settings and click on the *Apply* button.

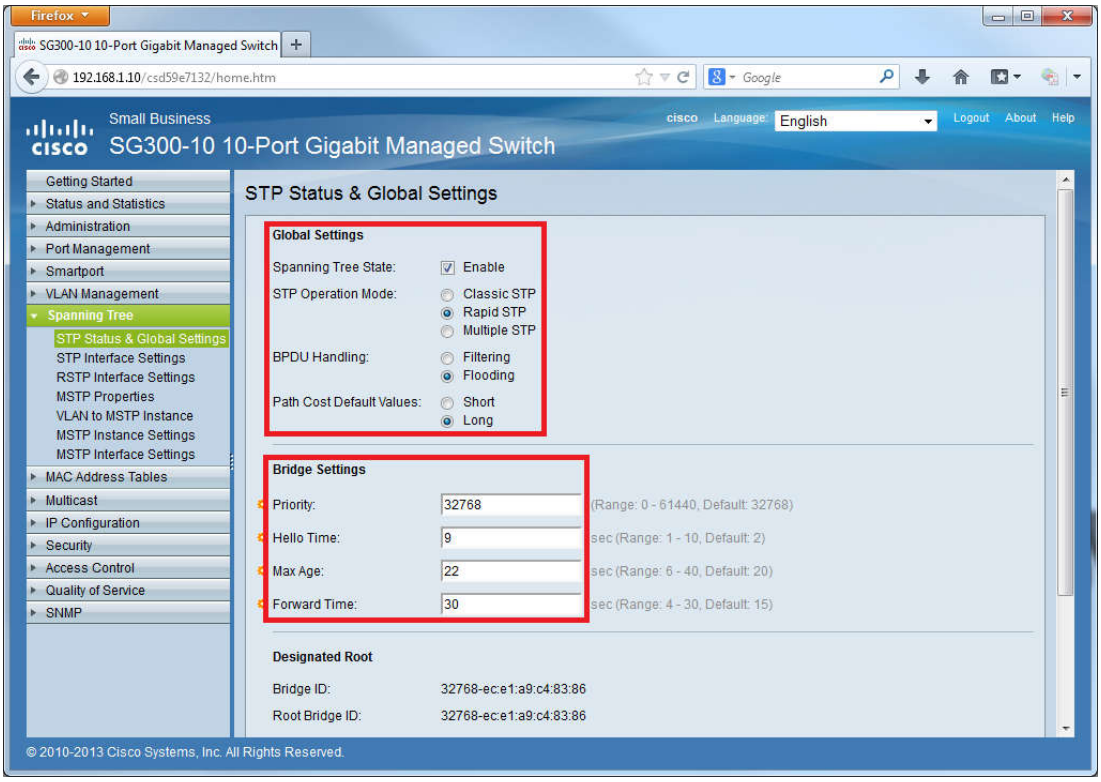


Notice!

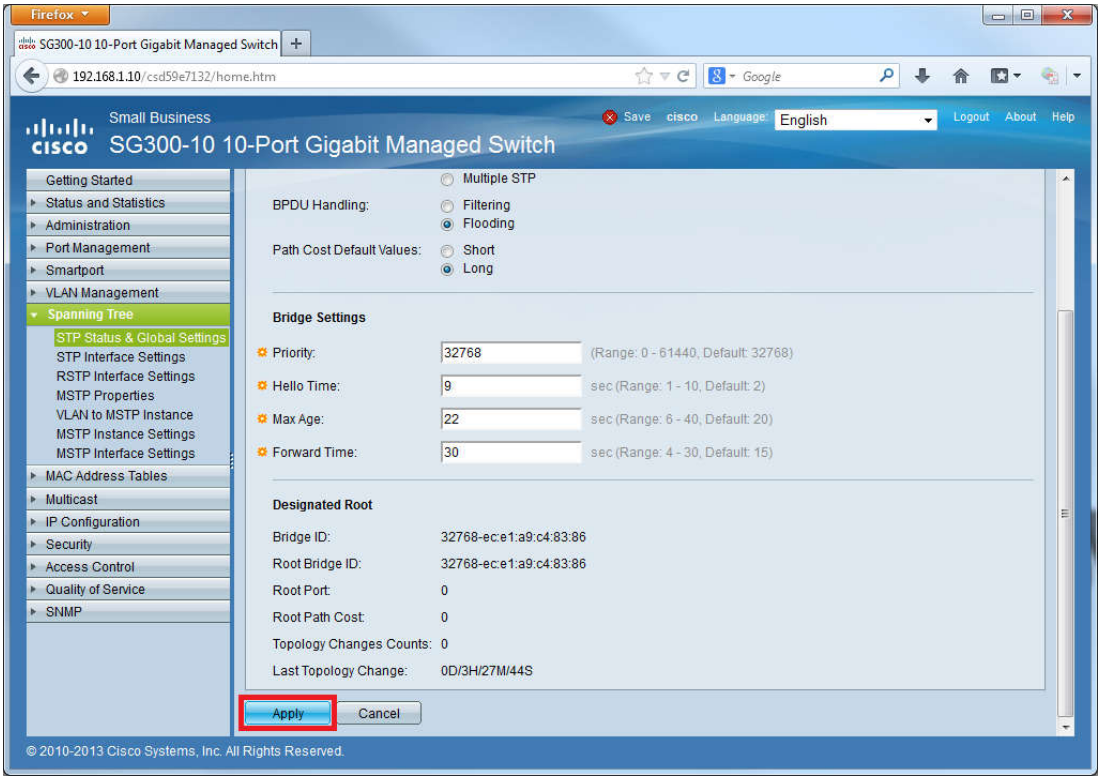
Don’t forget to save the changes you made!

3.4 RSTP configuration

1. Go to *Spanning Tree* > *STP Status & Global Settings*.
2. Under *STP Status & Global Settings* make the following settings...



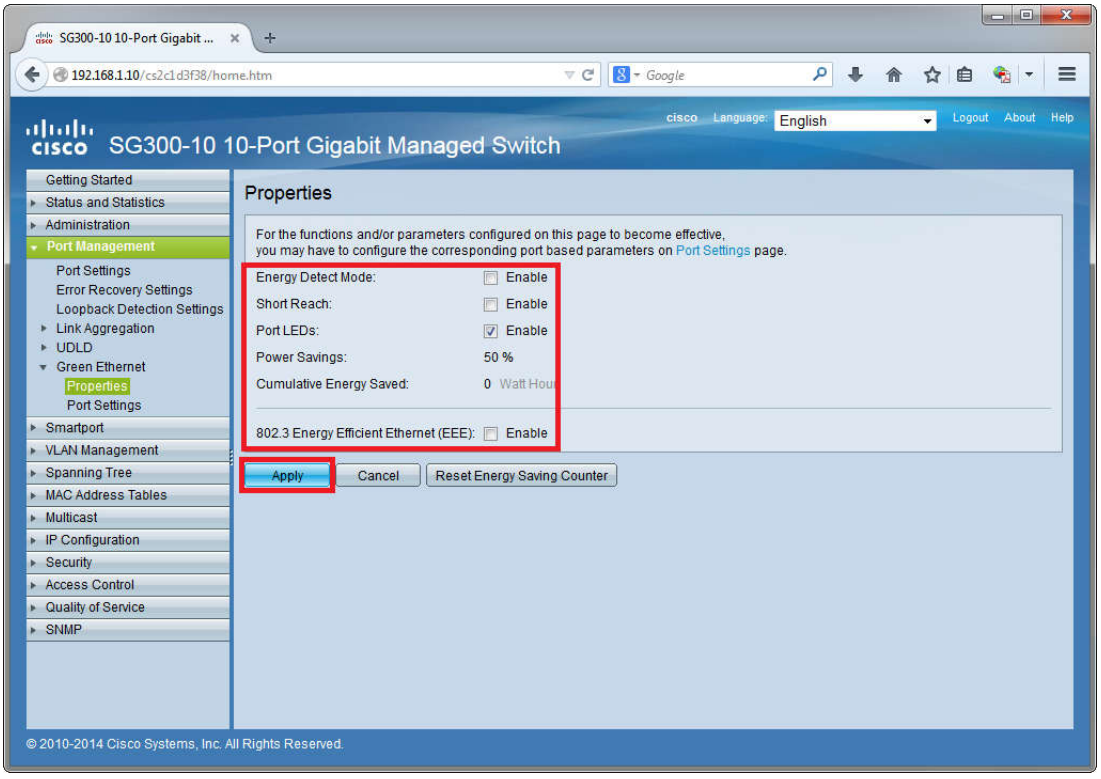
... and click on the *Apply* button.



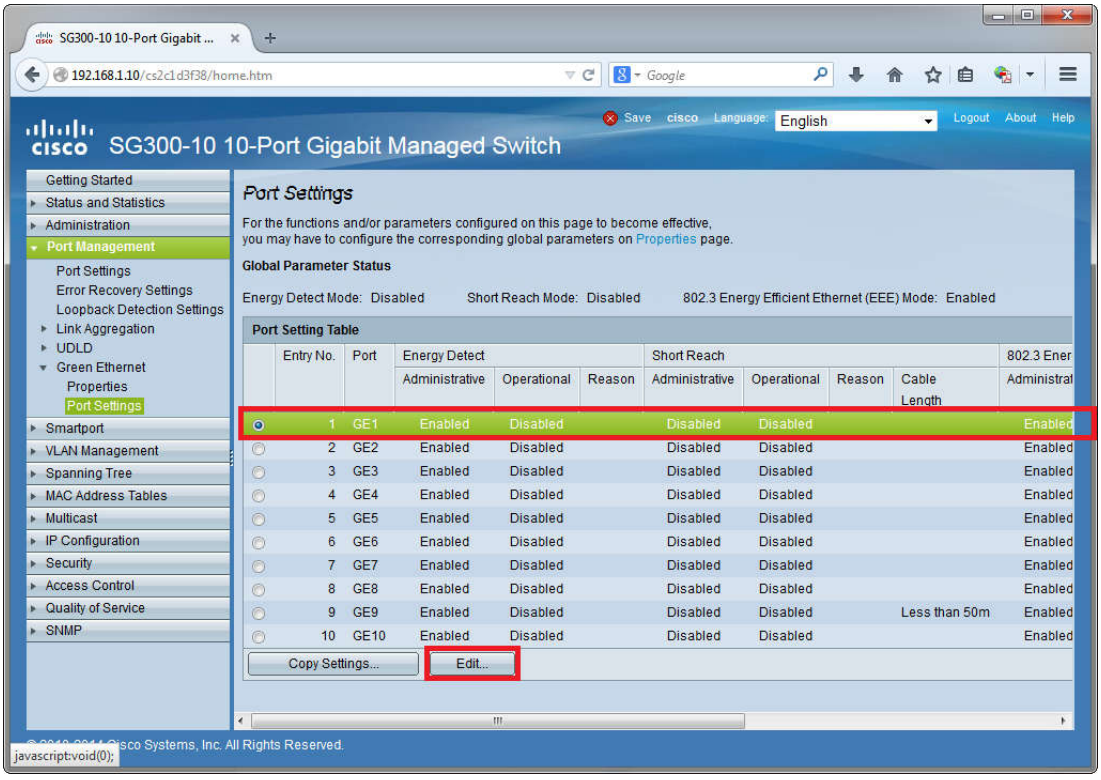
Notice!
Don’t forget to save the changes you made!

3.5 Green Mode configuration

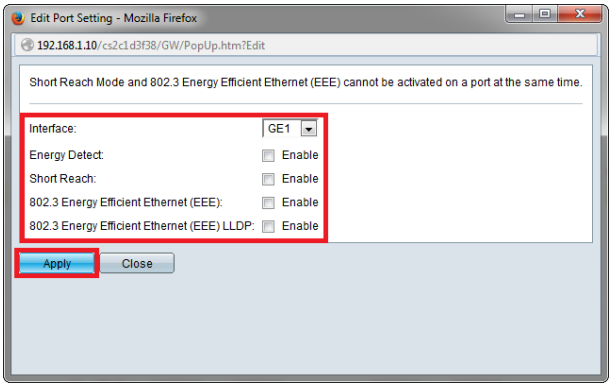
1. Go to Port Management -> Green Ethernet.
2. Under Properties make the following settings and click on the Apply button:



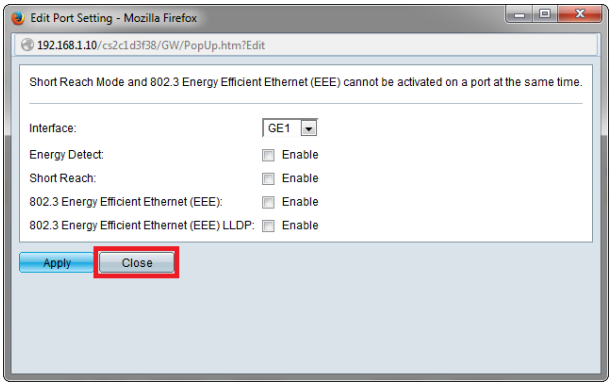
3. Under Port Settings select Entry No. 1 and click on the Edit... button:



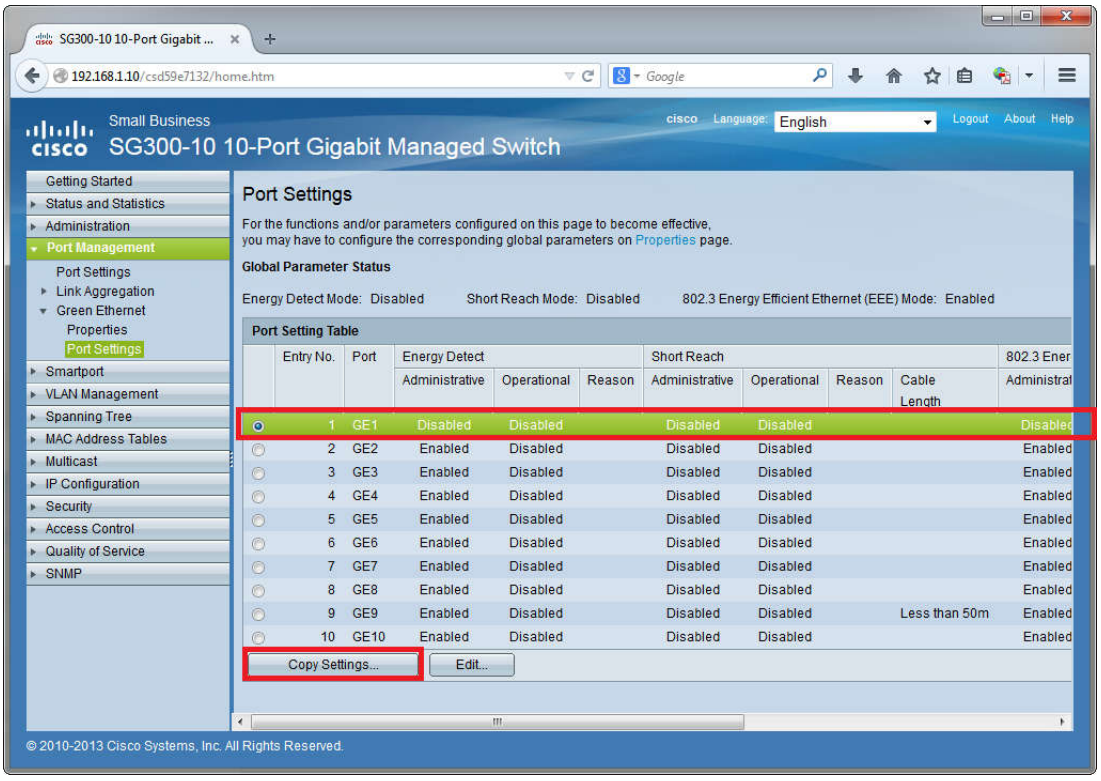
4. In the Edit Port Settings dialog which opens make the following settings and click on the Apply button:



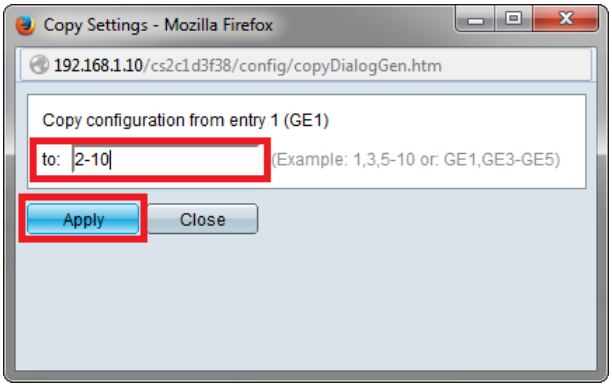
5. Close the dialog by clicking on the Close button



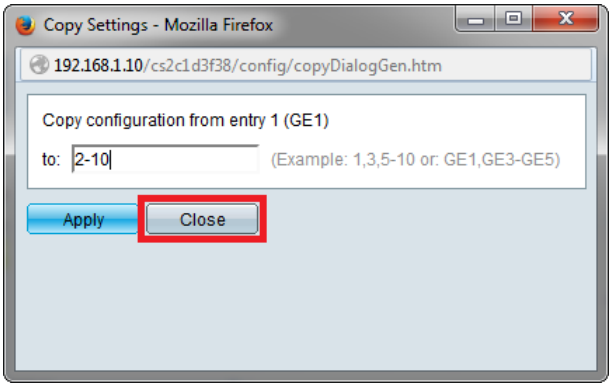
6. Under Port Settings select Entry No. 1 and click on the Copy Settings... button:



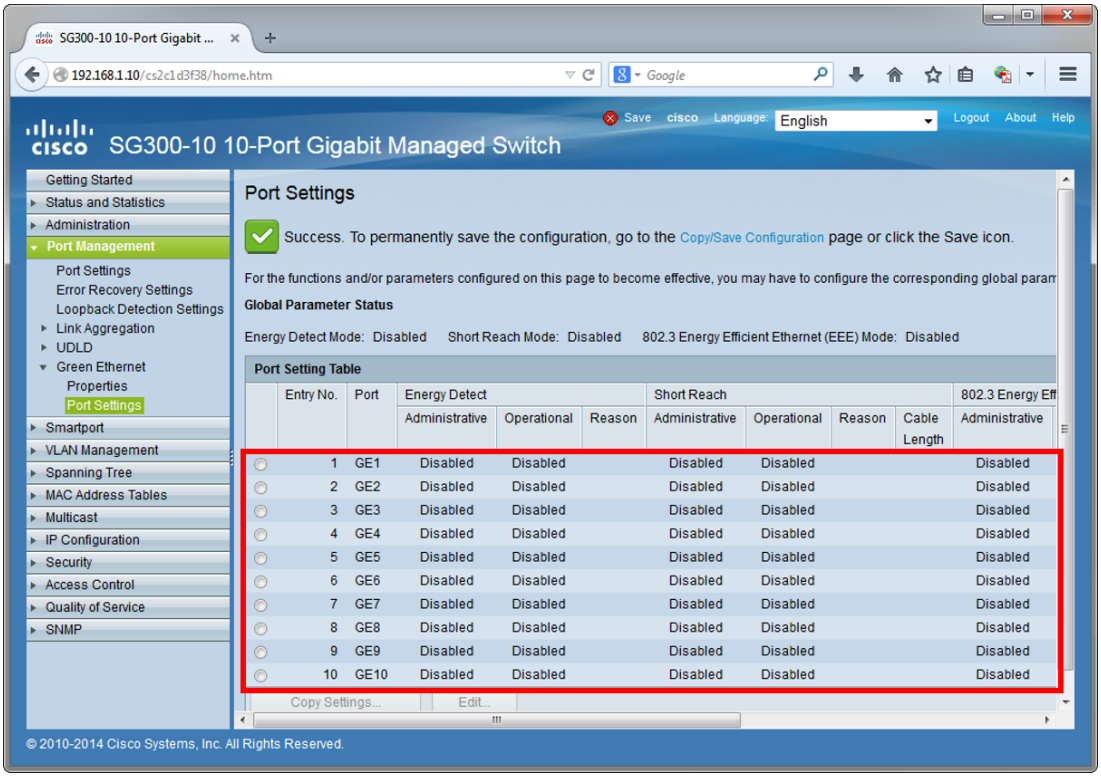
7. In the Copy Settings dialog which opens enter 2-10 in the field labeled with to: and click on the Apply button:



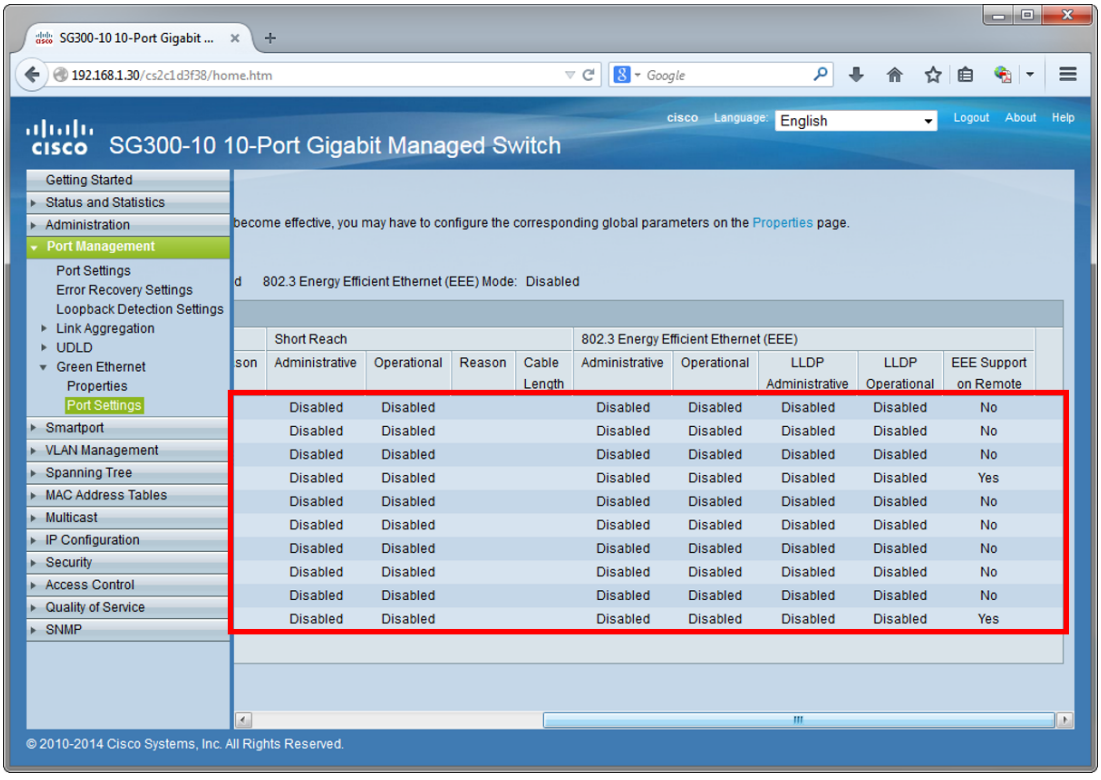
8. Close the dialog by clicking on the Close button



9. After the switch reports back Success, check again the settings:



Please also scroll right:



Notice!

Don’t forget to save the changes you made!

4 Default settings

Cisco SG300 Series factory default settings:

Default IP address: 192.168.1.254

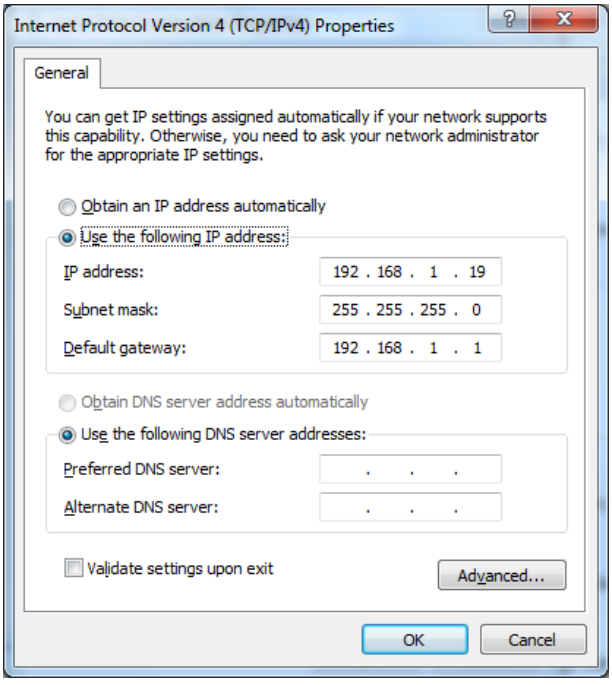
Default subnet mask: 255.255.255.0

Default user name: cisco

Default password: cisco

PC's network settings:

For configuration of a new, unconfigured Cisco SG300 switch assign an IP address from the 192.168.1.1 to 192.168.1.253 range and subnet mask 255.255.255.0 to your PC's network interface.



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